

SPECIFICATIONS *and* DETAILS *for the*
APPLICATION *and* DECORATION
of

ACOUSTI — CELOTEX
for ACOUSTICAL TREATMENT



A Product of

THE CELOTEX COMPANY

645 NORTH MICHIGAN AVE., CHICAGO, ILLINOIS

Mills: NEW ORLEANS

THE CELOTEX COMPANY

CHICAGO, ILLINOIS; MILLS: NEW ORLEANS, LA.

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Types and Sizes of ACOUSTI-CELOTEX

Types and Coefficients

ACOUSTI-CELOTEX is made of Celotex Standard Building Board perforated with a large number of drilled holes to increase its sound absorbing capacity.

The sound absorbing values of ACOUSTI-CELOTEX are based upon the standard frequency of 512 vibrations per second, a tone one octave above middle C. The authority for these values is Professor F. R. Watson of the University of Illinois.

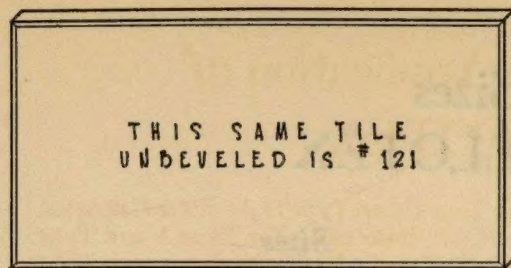
The figures shown indicate the portion of sound energy absorbed at each impact of a sound wave. One square foot of open window is considered as having total absorption and is given a value of one sound absorbing unit. Type B ACOUSTI-CELOTEX absorbs 55 per cent of the sound energy which strikes it and hence has a value of .55 sound absorbing units per square foot or a coefficient of .55.

TYPE	DESCRIPTION	SOUND ABSORBING UNITS PER SQ. FT.
A	ACOUSTI-CELOTEX $\frac{7}{8}$ " thick with 400 perforations per square foot, each perforation $\frac{1}{4}$ " in diameter and $\frac{3}{4}$ " deep, <i>applied with perforations concealed</i>37
B	ACOUSTI-CELOTEX same as Type A, <i>applied with perforations exposed</i>55
BB	ACOUSTI-CELOTEX $1\frac{5}{16}$ " thick with 400 perforations per square foot, each perforation $\frac{1}{4}$ " in diameter and $1\frac{1}{8}$ " deep, <i>applied with perforations exposed</i>70
C	ACOUSTI-CELOTEX $\frac{7}{16}$ " thick with perforations extending from face to back40
D	ACOUSTI-CELOTEX $\frac{7}{16}$ " thick without perforations25

Sizes

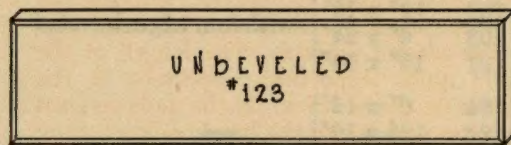
TYPE	NUMBER	
A	104	6" x 12"
	102	12" x 12"
	103	6" x 24"
	101	12" x 24"
	124	6" x 12"
	122	12" x 12"
B	123	6" x 24"
	121	12" x 24"
	202	12" x 12"
	204	6" x 12"
	208	12" x 12"
	222	12" x 12"
C	224	6" x 12"
	228	12" x 12"
	206	12" x 12"
	BB 408	12" x 12"
	428	12" x 12"
	302	12" x 12"
D	308	12" x 12"
	322	12" x 12"
	328	12" x 12"
	D	Cut to sizes up to 4' x 12', sanded and beveled as required.

See ACOUSTI-CELOTEX Detail Sheet, Page 4 for illustrations of types.



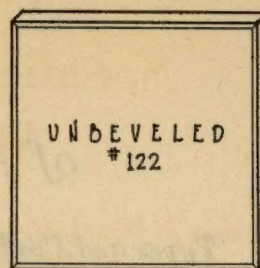
#101

12"x24"



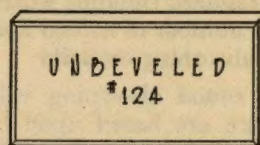
#103

6"x24"



#102

12"x12"

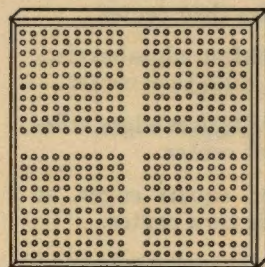


#104

6"x12"



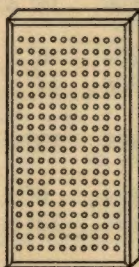
• TYPE 'A' PERFORATIONS CONCEALED •



#202

12"x12"

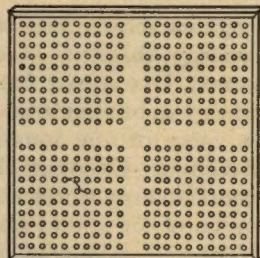
#222 UNBEVELED



#204

6"x12"

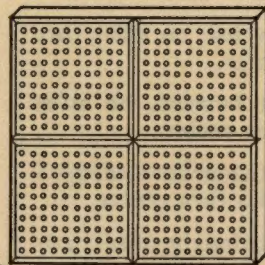
#224 UNBEVELED



#302

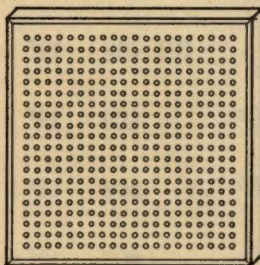
12"x12"

#322 UNBEVELED



#206

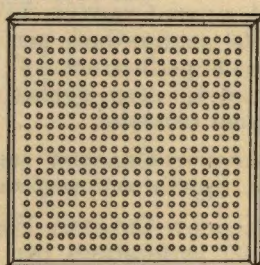
12"x12"



#208

12"x12"

#228 UNBEVELED



#308

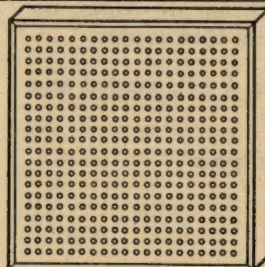
12"x12"

#328 UNBEVELED



• TYPE 'B' PERFORATIONS EXPOSED •

• TYPE 'C' PERFORATIONS THRU •



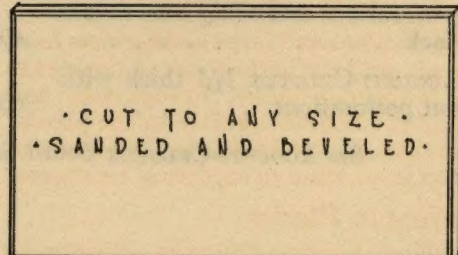
#408

12"x12"

#428 UNBEVELED



TYPE 'B-B'



• CUT TO ANY SIZE •
• SANDED AND BEVELED •



• TYPE 'D' •

• DIAGRAM OF VARIOUS TYPES OF ACOUSTI-CELOTEX •

NOT DRAWN TO SCALE

Specifications for the Application of ACOUSTI-CELOTEX

1. Nailing to Wood Strips

Apply 1" x 2" or 1" x 3" wood furring strips spaced 12 inches on centers, or otherwise in accordance with the requirements of the design. The details on Pages 6 and 7 show methods of applying the strips to various types of construction.

In concrete or other masonry construction, it is usually found cheaper to place wood grounds 3 feet on centers, or as the construction demands, and then nail strips across these 12 inches on centers. On new work, place clips or grounds during construction. On old work, use toggle or expansion bolts or plugs.

Nail the ACOUSTI-CELOTEX slabs directly to the wood furring strips. With Type C and Type D ACOUSTI-CELOTEX on jobs where the nail heads must not show, use 4d finish nails and drive them into the bevel of the slabs at an angle. For a more substantial job, use a $\frac{1}{8}$ " No. 17 flat head wire brad. The head is so small it can hardly be detected at a little distance. On a high ceiling use a 4d galvanized common shingle nail.

Type A ACOUSTI-CELOTEX is used mostly on walls and low ceilings where nail heads must be concealed. Use 6d finish nails and drive them into the bevel at an angle.

Type B ACOUSTI-CELOTEX can be applied with 6d finish nails, the same as Type A. The holes in the four corners of the 12" x 12" Type B slab are bored only half way thru. For a good job, drive 4d galvanized common nails into these corner holes and sink them with a nailset.

Type BB ACOUSTI-CELOTEX is usually used on high ceilings. Nail to wood strips with a 7d. box nail.

2. Nailing to Wood Ceiling

Many churches and large auditoriums have plank roofs with the bottom side of the planks exposed in the room below. In such cases, nail the ACOUSTI-CELOTEX directly to the planks. This provides a good finished surface and roof insulation in addition to acoustical treatment.

3. Nailing to Plaster

In nailing ACOUSTI-CELOTEX directly to plaster, use the old fashioned wedge shaped cut nails instead of wire nails. Their tapered shape makes them hold tight like a wood plug in a brick wall.

For Type C and Type D ACOUSTI-CELOTEX, use a 1" cut finish nail. For Type A and Type B use a $1\frac{1}{4}$ " nail. Use six nails for each 12" x 12" tile and drive them into the bevel at a 45 degree angle toward the center. Driving the nails at an angle furnishes an additional grip with the plaster surface. The length of the nails is quite important, especially if the plaster is on tile or brick. If the nails go thru the plaster and strike the hard backing, they will chip off the plaster and lose their hold.

CAUTION. This method of application should not be attempted unless the plaster is hard and solid and should never be used on lime plaster. A test of the plaster should be made by nailing up a few slabs to see how they hold before going ahead with the installation.

4. Cementing to Plaster

On domes and other surfaces of double curvature, 6" x 12" ACOUSTI-CELOTEX tile are usually cemented in a Herringbone Pattern to a rough plaster backing. Cementing is usually found more costly than other methods of application and requires more skill to produce a good job.

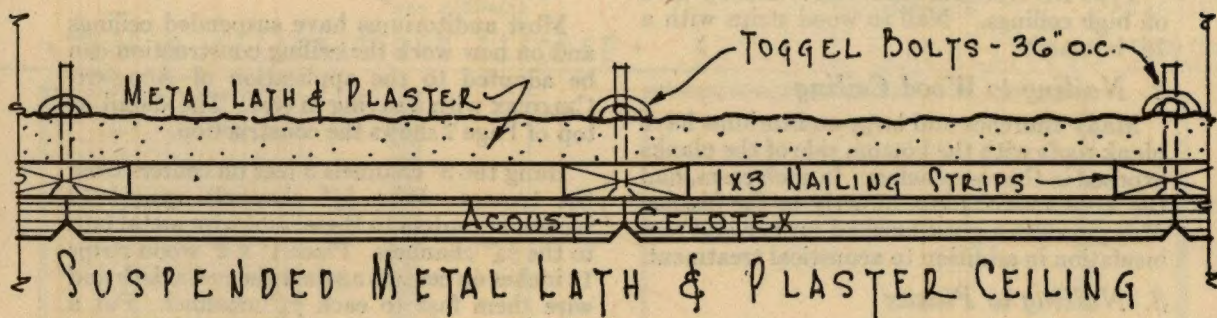
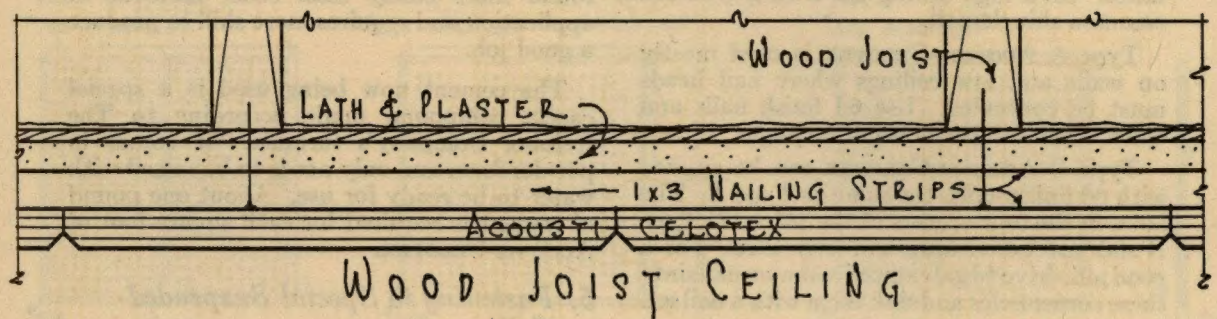
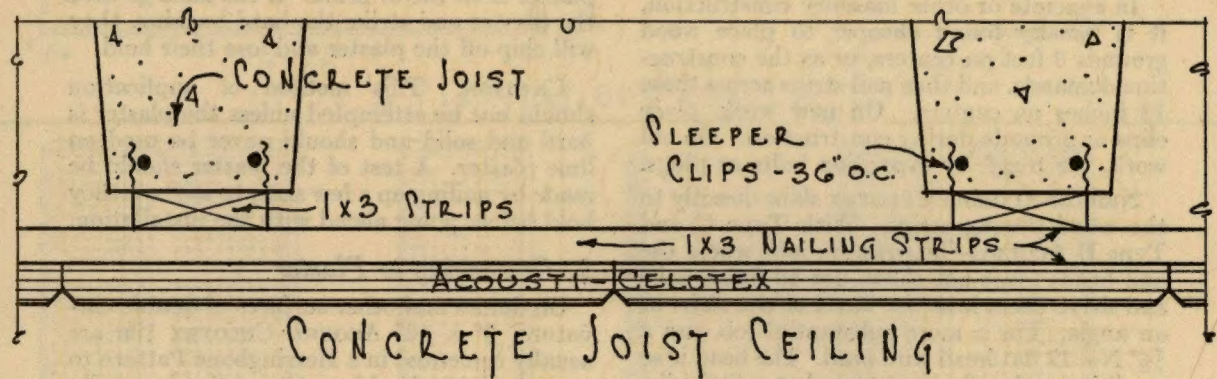
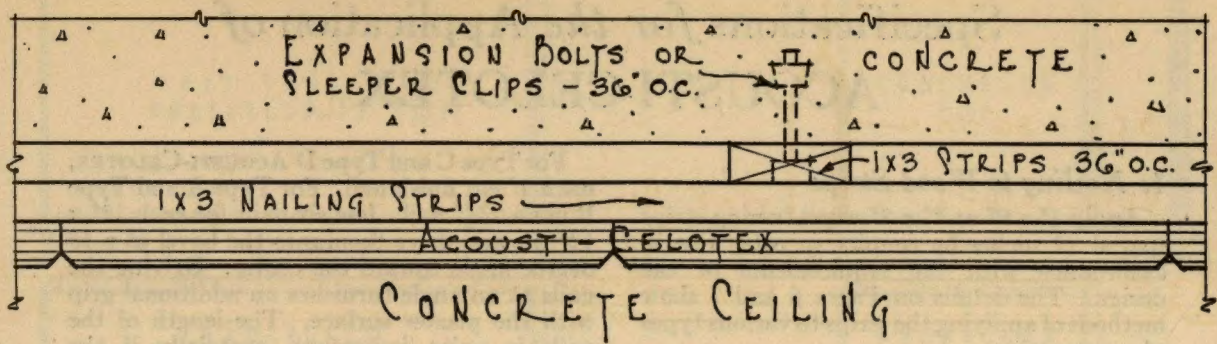
The cement now being used is a special casein compound made according to The Celotex Company's formula. It comes in powder form and only needs to be mixed with water to be ready for use. About one pound of cement is required for each square foot of ACOUSTI-CELOTEX.

5. Fastening to Special Suspended Ceiling

Most auditoriums have suspended ceilings and on new work the ceiling construction can be adapted to the application of ACOUSTI-CELOTEX with a saving in cost. The detail at top of Page 7 shows the construction.

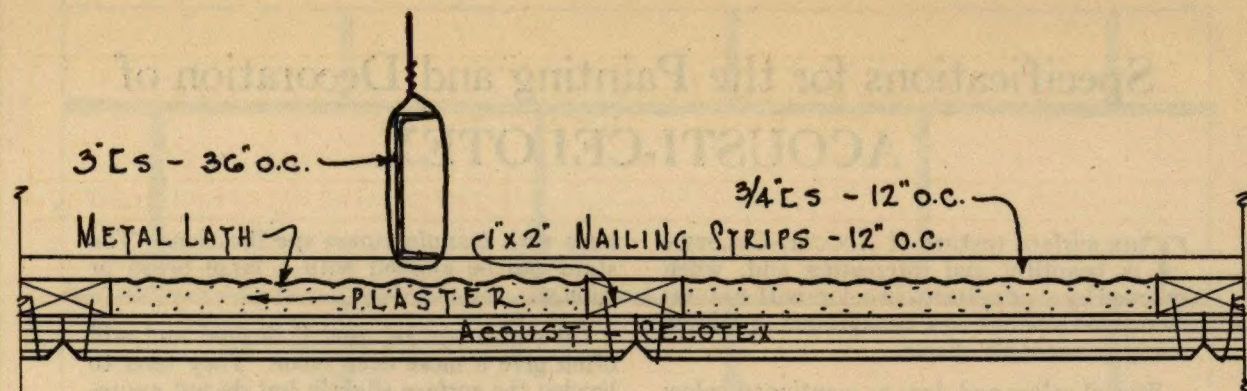
Hang the 3" channels 3 feet on centers from the trusses. Wire $\frac{3}{4}$ " channels spaced 12 inches on centers to these, and wire metal lath to the $\frac{3}{4}$ " channels. Place 1" x 2" wood strips 12 inches on centers against the metal lath and wire them fast to each $\frac{3}{4}$ " channel. Put a rough coat of plaster on the metal lath between the wood strips bringing it up flush with the face of the strips. Nail the ACOUSTI-CELOTEX to the wood strips with nails as given under Specification No. 1.

See ACOUSTI-CELOTEX Detail Sheets, Pages 6 and 7, Showing Application

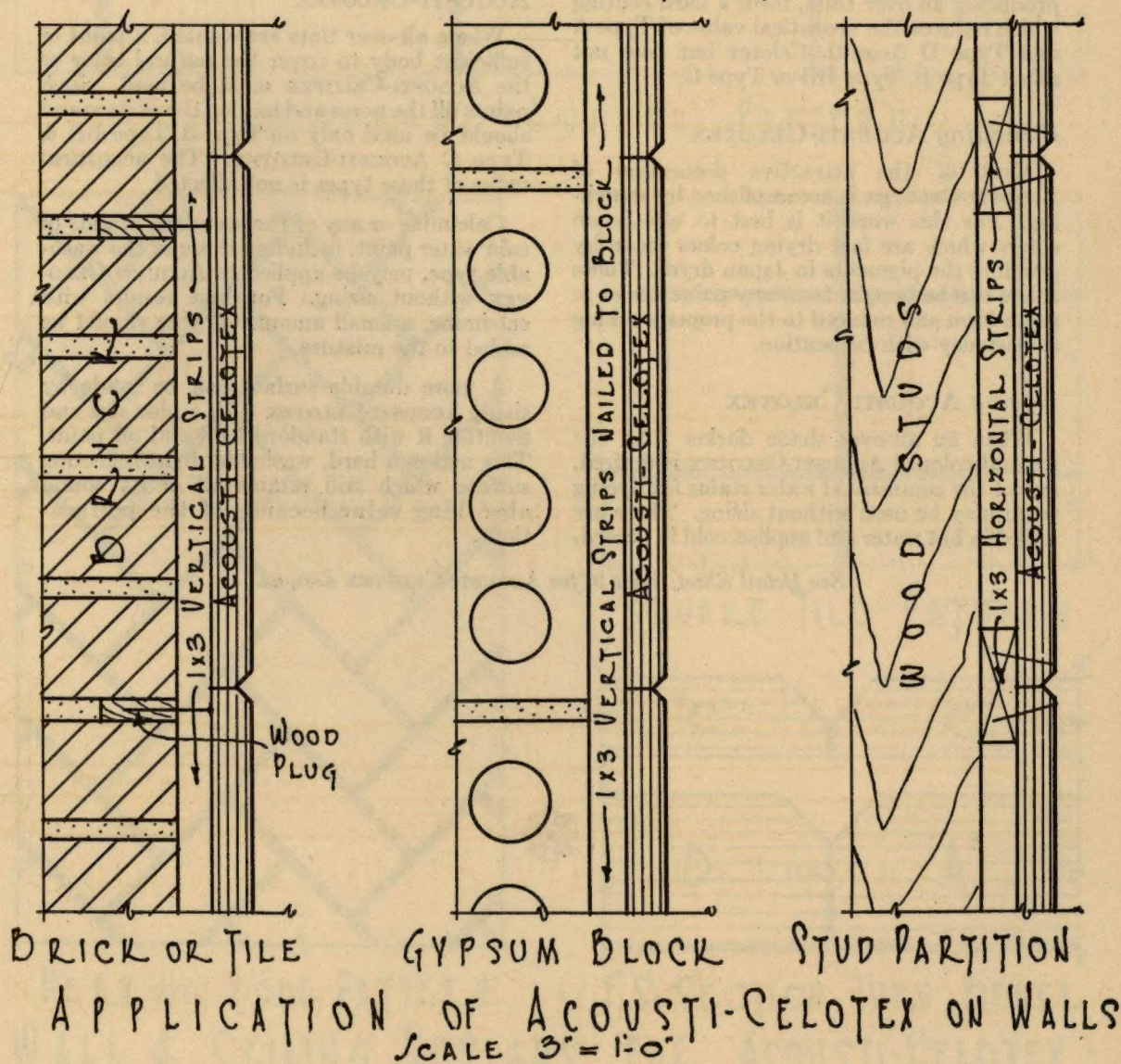


APPLICATION OF ACOUSTI-CELOTEX ON CEILING

SCALE 3" = 1'-0"



SUSPENDED METAL LATH & PLASTER CEILING
SPECIAL CONSTRUCTION



Specifications for the Painting and Decoration of ACOUSTI-CELOTEX

THE surface texture of ACOUSTI-CELOTEX is beautiful and interesting and, when relieved by over patterns in colors with natural ACOUSTI-CELOTEX as a background, produces many remarkable effects.

Stencil colors and dyes as mentioned below do not appreciably affect the acoustical value of any of the types of ACOUSTI-CELOTEX.

Paints of heavy body, such as are used in producing all-over tints, form a hard coating which reduces the acoustical value of Type A and Type D Acoustic-Celotex but does not affect Type B, Type BB or Type C.

Stenciling ACOUSTI-CELOTEX

Most of the attractive decoration of ACOUSTI-CELOTEX is accomplished by stenciling. For this work it is best to use Japan colors which are fast drying colors made by grinding the pigments in Japan dryer. These colors can be bought from any paint dealer in paste form and reduced to the proper working consistency with turpentine.

Dyeing ACOUSTI-CELOTEX

When an all-over shade darker than the natural color of ACOUSTI-CELOTEX is desired, any of the commercial water stains for dyeing wood may be used without sizing. These are mixed in hot water and applied cold in accord-

ance with manufacturers specifications. The stain can be applied with a large brush or sponge.

Oil stains can be used if desired and will often give a more even color. They tend to harden the surface slightly but do not appreciably affect the acoustical value.

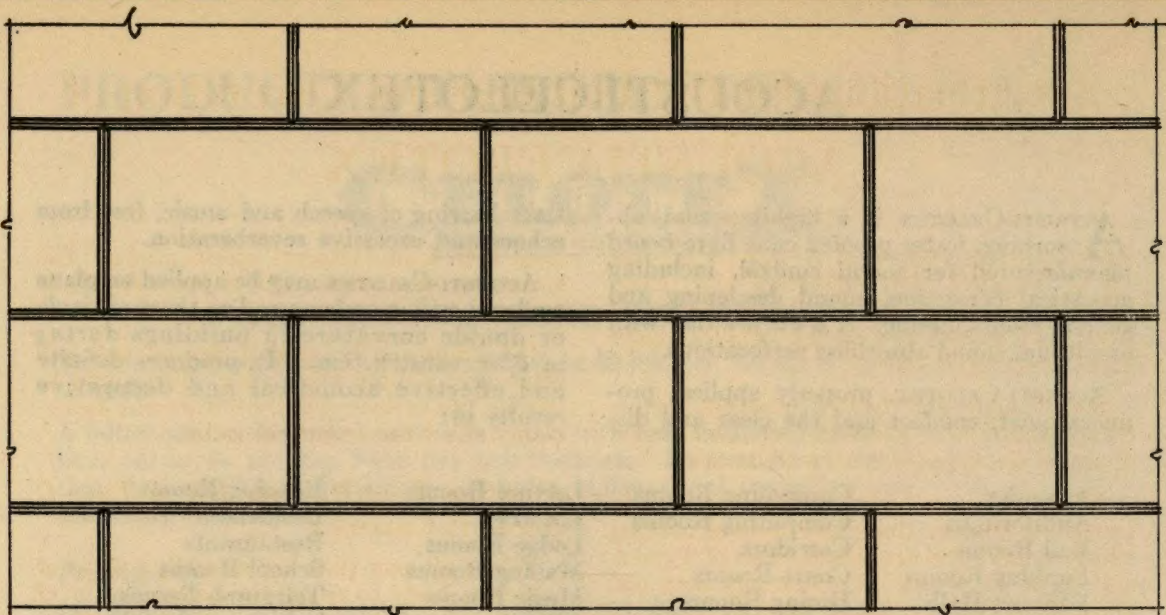
Painting Type B, Type BB & Type C ACOUSTI-CELOTEX

Where all-over tints are wanted, a paint of sufficient body to cover the natural color of the ACOUSTI-CELOTEX must be used. Such paints fill the pores and harden the surface and should be used only on Type B, Type BB & Type C ACOUSTI-CELOTEX. The acoustical value of these types is not affected.

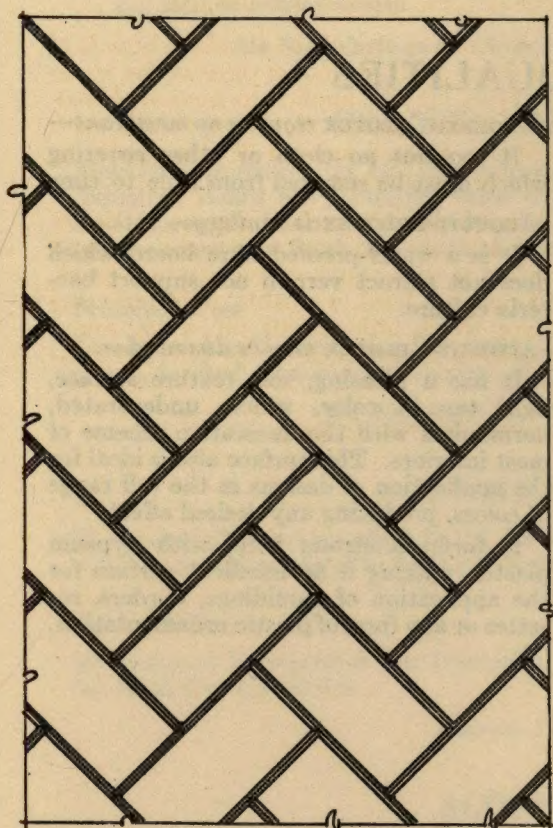
Calcimine or any of the standard brands of cold water paint, including those of the washable type, may be applied to ACOUSTI-CELOTEX without sizing. For best results with calcimine, a small amount of glue should be added to the mixture.

A more durable surface can be made by sizing ACOUSTI-CELOTEX with a glue size and painting it with standard lead and oil paint. This makes a hard, washable, light-reflecting surface which still retains all of its sound absorbing value because of the perforations.

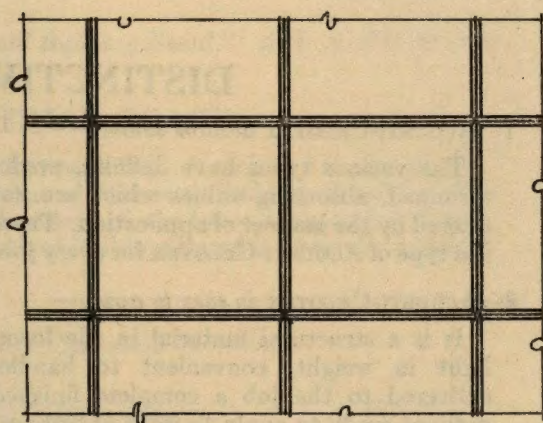
See Detail Sheet, Page 9, for ACOUSTI-CELOTEX designs.



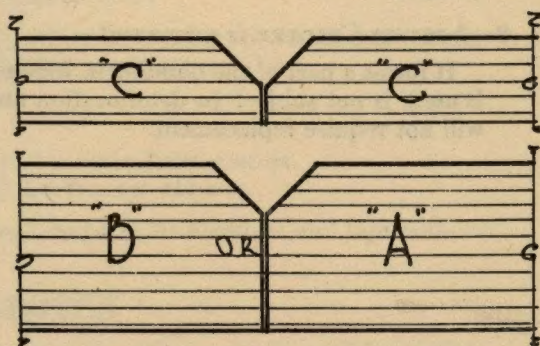
· REGULAR ASHLAR PATTERN ·



HERRING BONE PATTERN
· WALL & CEILING DESIGNS FOR ACOUSTI-CELOTEX ·
/SCALE 1" = 1'-0"



SQUARE TILE PATTERN



F.S. SECTION THRU BEVEL

ACOUSTI-CELOTEX

ACOUSTI-CELOTEX is a highly sound absorbing, water proofed cane fibre board manufactured for sound control, including acoustical correction, sound deadening and general room quieting. It is made either with or without sound absorbing perforations.

ACOUSTI-CELOTEX, properly applied, produces quiet, comfort and the clear and dis-

tinct hearing of speech and music, free from echoes and excessive reverberation.

ACOUSTI-CELOTEX may be applied on plane wall and ceiling surfaces and on those of single or double curvature in buildings *during* or *after* construction. It produces definite and effective acoustical and decorative results in:

Armories
Auditoriums
Ball Rooms
Banking Rooms
Banquet Halls
Billiard Rooms
Bowling Alleys
Churches
Club Rooms

Composing Rooms
Computing Rooms
Corridors
Court Rooms
Dining Rooms
Factories
Halls
Hospitals
Laboratories

Lecture Rooms
Libraries
Lodge Rooms
Mailing Rooms
Music Rooms
Offices
Printing Plants
Radio Studios
Railway Stations

Reading Rooms
Residences
Restaurants
School Rooms
Telegraph Rooms
Telephone Rooms
Temples
Theatres
Typewriting Rooms

DISTINCTIVE QUALITIES

1—ACOUSTI-CELOTEX *absorbs sound*—

The various types have definite, predetermined, absorbing values which are not altered by the manner of application. There is a type of ACOUSTI-CELOTEX for every job.

2—ACOUSTI-CELOTEX *is easy to apply*—

It is a structural material in tile form, light in weight, convenient to handle, delivered to the job a complete finished product ready to apply to walls or ceilings. A good mechanic can nail or cement it in place.

3—ACOUSTI-CELOTEX *is permanent*—

It forms a part of the building in which it is used, is not subject to deterioration and will not require replacement.

4—ACOUSTI-CELOTEX *requires no membrane*—

It requires no cloth or other covering which must be renewed from time to time

5—ACOUSTI-CELOTEX *is sanitary*—

It is a water-proofed fibre board which does not attract vermin nor support bacteria culture.

6—ACOUSTI-CELOTEX *may be decorated*—

It has a pleasing, soft texture surface, light tan in color, which, undecorated, harmonizes with the decorative scheme of most interiors. This surface also is ideal for the application of designs in the full range of colors, producing any desired effect.

It forms a strong bond with gypsum plaster, making it an excellent surface for the application of mouldings, borders, rosettes or any form of plastic ornamentation.

PRODUCTS of THE CELOTEX COMPANY



CELOTEX STANDARD BUILDING BOARD

Thickness approximately $\frac{7}{16}$ "; average weight 60 lbs. per 100 sq. ft.; width 4 ft.; lengths 8 to 12 ft.

A felted and waterproofed cane fibre board with heat insulating value of 0.33 B. t. u. per hour per sq. ft. per deg. Fahr. per inch thickness. Its strength in wall sections is greater than horizontal pine sheathing. It has a higher sound insulation value than standard deadening felts.

Principal Uses

- (a) Sheathing (and insulation) for frame, stucco and brick veneer buildings, replacing wood sheathing.
- (b) Under plaster (and as insulation) replacing lath or plaster board.
- (c) Floor and wall sound deadener.
- (d) Interior and exterior wall finish. Can be painted or stained or left natural.

See Specifications—"Celotex Standard Building Board." A. I. A. File 37 a 1.

CELOTEX INDUSTRIAL BOARD

Thickness approximately $\frac{1}{2}$ "; average weight 58 lbs. per 100 sq. ft.; width 3 ft.; length 6 ft. Industrial Board has insulating value equal to that of Standard Building Board but less tensile strength, hence should not be used as replacement of wood sheathing; under plaster; interior or exterior finish, for which purposes Standard Building Board is especially adapted.

Principal Uses

Commercial roof insulation for industrial plants, for fuel economy and the prevention of condensation on ceilings.

See Specifications—"Celotex Industrial Board." A. I. A. File 37 a 1.

CELOTEX INSULATION

Thickness $\frac{1}{2}$ "; average weight 56 lbs. per 100 sq. ft. Manufactured in special sizes to comply with the requirements of railroad car builders and other manufacturers.

Principal Uses

- (a) Railroad Refrigerator Car Insulation.
- (b) Steel Car Insulation.
- (c) Domestic Refrigerators.
- (d) Ice Storage Houses.

Address The Celotex Company for literature and information.

ACOUSTI-CELOTEX

Especially manufactured for acoustical correction, including treatments for audition, quieting and sound insulation.

See specifications in this pamphlet—"ACOUSTI-CELOTEX." A. I. A. File 39 b.

PRODUCTS OF THE CELOTEX COMPANY



ACOUSTI-CELOTEX

A Product of

THE CELOTEX COMPANY

(a) Sound and vibration control in buildings and other structures.
(b) Sound and vibration control in machinery and equipment.
(c) Sound and vibration control in transportation vehicles.
(d) Sound and vibration control in industrial processes.
(e) Sound and vibration control in environmental noise reduction.

CELOTEX INDUSTRIAL BOARD
CELOTEX INDUSTRIAL BOARD

Industrial Board has been established to coordinate the activities of the various industrial organizations in the field of sound and vibration control. The Board is composed of representatives of the following organizations:

(a) American Institute of Mechanical Engineers
(b) American Society of Heating, Refrigerating and Air-Conditioning Engineers
(c) American Society of Mechanical Engineers
(d) American Society of Refrigerating Engineers
(e) American Society of Heating and Refrigerating Engineers

CELOTEX EXHIBITION
CELOTEX EXHIBITION

The CELOTEX Exhibition is a major event in the field of sound and vibration control. It is held annually in the city of Chicago, Illinois. The exhibition is open to the general public and is a valuable source of information for those interested in the field.

(a) Sound and vibration control in buildings and other structures.
(b) Sound and vibration control in machinery and equipment.
(c) Sound and vibration control in transportation vehicles.
(d) Sound and vibration control in industrial processes.
(e) Sound and vibration control in environmental noise reduction.

ACOUSTI-CELOTEX
ACOUSTI-CELOTEX

ACOUSTI-CELOTEX is a product of The Celotex Company. It is a sound and vibration control material that is used in a wide variety of applications. It is available in a variety of thicknesses and is easy to install.

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